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REMARKS/ARGUMENTS

This application has been reconsidered carefully in light of the Office Action dated as mailed on 13 January 2004. A careful reconsideration of the application by the Examiner in light of the foregoing amendments and the following remarks is respectfully requested.

5 This response is timely filed as it is accompanied by an appropriate Petition for Extension of Time for Filing of Response under Rule 1.136(a) and the associated fee.

 There is no additional claim fee due for this Amendment because the total number of claims does not exceed the number of independent and dependent
10 claims for which fees have previously been paid.

Amendment to the Claims

 By the above, independent claims 1 and 18 as well as dependent claims 2 and 14 have each been rewritten to improve their form and to make more clear the
15 invention which Applicants regard as their invention.

 More specifically, independent claims 1 and 18 and dependent claim 14 have each been rewritten for improved clarity. In particular, independent claims 1 and 18 and dependent claim 14 have each been rewritten to clarify that it is the treatment

element that is gas-permeable, consistent with the disclosure such as at page 16, line 19 through page 17, line 4, wherein treatment elements such as in the form of a combustion screen or filter such as formed of multiple layers or wraps of a metal screen are identified. Further, such a rewriting of these claims is consistent with the claim 2 requirement for the additional inclusion of a barrier (now “rupturable seal”) closing the gas exit ports to mass flow in a static state. Clearly, a metal screen or the like “combustion screen or filter” as described in the specification for the treatment element, does not “close the gas exit ports to mass flow in a static state”, as required in claim 2.

Claim 18 has also been rewritten to make clear that the gas-permeable treatment element is disposed between the quantity of the first gas generant material and the plurality of rows of spaced apart gas exit ports, consistent with the specification and the figures.

Claim 2 has been rewritten to use terminology more consistent with the specification. In particular, claim 2 has been rewritten to refer to a rupturable seal, rather than a “barrier”, closing the gas exit ports to mass flow in a static state. Support for the inclusion and use of a rupturable seal, as so claimed, can be found throughout the specification such as at page 17, lines 5-12 and page 20, lines 18-21, for example.

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Claims 1-27 remain in the application with claim 20 having been withdrawn from consideration.

Election/Restrictions

5 Agreement by the Examiner that claims 1-19 and 21-27 are generic to both species is gratefully acknowledged

Also acknowledged, is the withdrawal of claim 20 pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there currently being no generic or linking claim being found allowable.

Drawings

10 The drawings have been objected to under 37 CFR 1.83(a) for allegedly not showing the barrier recited in claim 2.

15 This objection is respectfully traversed to the extent it may apply to the claims, as above amended.

As indicated above, claim 2 has been rewritten to refer to a rupturable seal, rather than a “barrier”, closing the gas exit ports to mass flow in a static state. It is noted that FIG. 1 shows the rupturable, foil seal 46 and FIG. 4 shows the rupturable, foil seal 246.

In view thereof, the objection to the drawings is believed overcome or clearly no longer applicable and notification to that effect is requested.

Formal Drawings

5 In the interest of appropriately advancing the application towards issuance, formal drawings for the application are submitted herewith.

Claims Rejection - 35 U.S.C. § 102

- 10 1. Claims 1, 2, 5-12 and 14-17 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,474,684 to Ludwig et al. (hereinafter "Ludwig").

These rejections are respectfully traversed.

The vehicular inflatable restraint system inflator device of independent claim 1 is neither shown nor suggested by Ludwig.

15 Independent claim 1 requires a vehicular inflatable restraint system inflator device which includes a housing. The housing is required to have a disk form and define a first chamber. The first chamber, in a static state, contains a quantity of a first gas generant material ignitable to produce first combustion products including a first inflation gas. The housing has at least a first and a second row of spaced apart gas exit ports adapted to permit passage of the first inflation gas from the inflator
20 device into an associated inflatable airbag cushion. The first chamber contains at least

one gas-permeable treatment element disposed between the quantity of the first gas generant material and the at least two rows of spaced apart gas exit ports, wherein passage of gas through the treatment element results in treatment thereof. The first chamber also contains a second chamber. The second chamber in a static state has an enclosed volume containing a quantity of a second gas generant material ignitable to produce second combustion products. The second chamber has a lid closure adapted to permit fluid communication of the second combustion products with the contents of the first chamber. The vehicular inflatable restraint system inflator device also includes a first initiator device operatively associated with the first chamber and a second initiator device operatively associated with the second chamber. The inflator device discharging sufficient inflation gas to inflate a passenger inflatable airbag cushion.

Thus, the so claimed invention requires that the first chamber contain at least one gas-permeable treatment element disposed between the quantity of the first gas generant material and the at least two rows of spaced apart gas exit ports, wherein passage of gas through the treatment element results in treatment thereof.

In contrast, Ludwig discloses a “non-hybrid pyrotechnic filterless inflator.” (See Ludwig Abstract, emphasis added.) While the Action identifies the burst film 446 of Ludwig as corresponding to the gas-permeable treatment element,

of the claimed invention, such identification and correspondence is believed to be inaccurate and inappropriate in a number of significant aspects.

For example, the claimed invention requires the treatment element be gas-permeable and the specification specifically identifies a combustion screen or filter such as formed of multiple layers or wraps of a metal screen as examples of such gas-permeable treatment elements, as identified above. Clearly, the burst film 446 of Ludwig is not “gas-permeable”, as required by the pending claims.

Further, independent claim 1 requires the first chamber to “contain at least one gas-permeable treatment element disposed between the quantity of the first gas generant material and the at least two rows of spaced apart gas exit ports”. Clearly, the burst film 446 of Ludwig is not disposed between the quantity of the first gas generant material and “at least two rows” of spaced apart gas exit ports, as required by independent claim 1. In particular, Ludwig shows the burst film 446 in FIG. 9. As clearly shown in such figure, the apparatus of Ludwig has only a single row of openings, e.g., the nozzles 462.

In this regards it is also noted that the Action identifies the center vent hole 481 and the end vent holes 482 of Ludwig as corresponding to the claimed “spaced apart gas exit ports”. But the vent holes 481 and 482 of Ludwig are in the shroud 470 and not in the closure cap 416. Moreover, any assertion that the shroud

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470 corresponds to the claimed “housing” is totally inconsistent with the Office Action assertion that the distance A-A’ in Ludwig corresponds to housing diameter in the claimed invention. The distance A-A’, identified in the Action, clearly does not encompass the shroud 470.

5 In view of the above, the invention of claim 1 and the claims dependent thereon, including claims 2, 5-12 and 14-17 are not believed to be shown or suggested by Ludwig either alone or in combination.

10 In addition, at least certain of the dependent claims include additional limitations which are believed to further patentably distinguish the claimed invention over the rejection based on Ludwig.

15 As identified above, claim 2 requires a rupturable seal closing the gas exit ports to mass flow in a static state. Such requirement is in addition to the requirement, appearing in underlying claim 1, for the inclusion of a “gas-permeable treatment element”. The rejection has clearly relied on the burst seal 446 as constituting not only the treatment element but also the barrier. As noted above, however, claim 1 requires that the first chamber contain at least one gas-permeable treatment element disposed between the quantity of the first gas generant material and the at least two rows of spaced apart gas exit ports while claim 2 requires a rupturable seal closing the gas exit ports to mass flow in a static state.

Claims 5-7 each requires that the housing of the vehicular inflatable restraint system inflator device of claim 1 have a length to diameter ratio of at least about 0.6, of no more than about 1.0 and in a range of at least about 0.7 and no more than about 0.8, respectively. Also, claim 13 requires the housing have a length to diameter ratio of at least about 0.6. Clearly the dual stage inflator 410 of Ludwig does not satisfy such measurement requirements.

In view of the above, the rejections of claims 1, 2, 5-12 and 14-17 as being anticipated by Ludwig are believed to have been overcome or otherwise rendered inapplicable or inappropriate and notification to that effect is solicited.

Claim Rejections - 35 U.S.C. §103

1. Claims 3, 4, 13 and 18-27 were rejected under 35 U.S.C. §103 as being unpatentable over Ludwig in view of U.S. Patent 6,652,683 to Rink et al. (hereinafter "Rink").

These rejections are respectfully traversed.

First, it is believed that the proposed combination of Rink with Ludwig is improper. The pending claims require the housing have a disk form. Clearly, the inflator device 10 shown in Rink does not have the required disk form. Thus, the proposed use of the teachings of Rink with those of Ludwig in an effort to arrive at the claimed invention is not supported by the prior art.

Further, claims 3, 4 and 13 are dependent, directly or indirectly, on claim 1. Claim 1 requires the first chamber in a static state contain “a quantity of a first gas generant material ignitable to produce first combustion products”. Claim 1 also requires the second chamber in a static state have “an enclosed volume containing a quantity of a second gas generant material ignitable to produce second combustion products.” In contrast, Rink teaches that the chamber 20 therein may desirably contain one or more oxidant source materials, either alone or in combination with one inert materials. (See Rink, column 5, line 24 through column 6, line 24, for example.) The chamber contents are not themselves ignitable to produce combustion products. Thus, the apparatus of Rink does not include first and second chambers, each containing a quantity of gas generant material ignitable to produce combustion products, as required by the claimed invention.

In view of the apparatus of Rink having neither the required disk form nor required first and second chambers each containing a quantity of gas generant material ignitable to produce combustion products, the disclosure in Rink of the gas output of a test inflator in the examples of the Rink patent (such as at column 8, line 21, cited in the Action) and in accordance with the teachings of Rink in no way are applicable to the currently claimed invention.

Still further, the proposed combination of Rink with Ludwig fails to overcome the shortcomings identified above regarding the rejection of claim 1 based on Ludwig alone, such as regarding the claim requirement for a gas-permeable treatment element and the claim requirement for “at least two rows” of spaced apart gas exit ports, for example.

Claim 18 is also an independent claim. Claim 18 requires the first chamber to contain “at least one gas-permeable treatment element disposed between the quantity of the first gas generant material and the plurality of rows of spaced apart gas exit ports”.

Clearly, the burst film 446 of Ludwig is not disposed between the quantity of the first gas generant material and a “plurality of rows” of spaced apart gas exit ports, as required by independent claim 18. As discussed above, Ludwig shows the burst film 446 in FIG. 9. As clearly shown in such figure, the apparatus of Ludwig has only single row of openings, e.g., the nozzles 462.

Moreover, the passenger side vehicular inflatable restraint system inflator device of claim 18 requires the inclusion of a first igniter assembly of a very specific construction operatively associated with the first chamber. In particular, claim 18 requires that the first igniter assembly include a first initiator device and a supply of igniter material housed in a first igniter assembly housing, wherein actuation

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of the first initiator produces a discharge in reaction initiating communication with at least a portion of the supply of the igniter material housed within the first igniter assembly housing and wherein the first igniter assembly housing includes a plurality of openings to permit passage of igniter material reaction products therethrough and into reaction initiating communication with at least a portion of the quantity of the first gas generant material contained in the first chamber.

Such an igniter assembly is nowhere shown or suggested in Ludwig and Rink, either alone or in combination.

In view of the above, the rejections of claims 3, 4, 13 and 18-27 as being unpatentable over Ludwig in view Rink are believed to have been overcome or otherwise rendered inapplicable or inappropriate and notification to that effect is solicited.

Withdrawn Claim

As identified above, claim 20 has been withdrawn from consideration. Claim 20, however, is dependent on claim 18. As submitted above, claim 18 is believed to be patentable over the prior art of record. In view thereof, consideration of claim 20 is requested and notification that claim 20 is patentable over the prior art of record is also requested.

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Conclusion

In view of the above, all pending claims are believed to be in condition for allowance and notification to that effect is solicited. However, should the Examiner detect any remaining issue or have any question, the Examiner is kindly requested to contact the undersigned, preferably by telephone, in an effort to expedite examination of the application.

Respectfully submitted,



Nick C. Kottis
Registration No. 31,974

Pauley Petersen & Erickson
2800 West Higgins Road; Suite 365
Hoffman Estates, Illinois 60195
TEL (847) 490-1400
FAX (847) 490-1403